Amendments to the Claims:
This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1- 16. (canceled)

Claim 17. (currently amended) A method of classifying ~~sibling~~ monoclonal antibodies (mAbs) that are raised against a single antigen into functional groups, comprising:

(a) immobilizing the antigen onto at least two biosensor surfaces;

(b) treating each biosensor surface with a different agent, wherein each agent is capable of modifying a surface of the ~~immobilized~~ antigen;

(c) exposing each treated biosensor surface to a ~~each~~ mAb;

(d) determining a binding profile for ~~each~~ the mAb of step (c); ~~and~~

(e) repeating steps (c) and (d) for each tested mAb, and

(ef) classifying the mAbs into functional groups based on ~~a~~ the binding profiles, wherein mAbs that exhibit similar binding profiles to ~~each~~ the same treated sensor surfaces are classified into the same functional group.

Claim 18. (previously presented) The method of claim 17, wherein the agent is an enzyme.

Claim 19. (previously presented) The method of claim 18, wherein the enzyme is a proteolytic enzymes selected from the group consisting of trypsin, endoproteinase Glu-C, endoproteinase Asp-N, chymotrypsin, endoproteinase Lys-C, and endoproteinase Arg-C.

Claim 20. (previously presented) The method of claim 17, wherein the agent is a chemical agents selected from the group consisting of Tris (2-carboxyethyl) phosphine hydrochloride (TCEP•HCl), N-ethyl-N'-(dimethylaminopropyl) carbodiimide (EDC), iodoacetamide, hydrazine, p-hydroxyphenylglyoxal (HPG), hydrogen peroxide, N-bromosuccinimide, N-acetylimidazole, tetranitromethane, arsanilic acid, dansyl chloride, glutaraldehyde, ninhydrin, and diethylpyrocarbonate (DEPC).

Claim 21. (Canceled)

Claim 22. (previously presented) The method of claim 17, wherein the at least two biosensor surfaces are four to nine surfaces.

Claim 23. (canceled)

Claim 24. (canceled)

Claim 25. (currently amended) A method of classifying ~~sibling~~ monoclonal antibodies (mAbs) that are raised against a single antigen into functional groups, comprising:

(a) immobilizing the antigen onto at least two biosensor surfaces;

(b) treating each biosensor surface with a different modifying agent, wherein the agent is selected from the group consisting of proteolytic enzymes and chemical agents;

(c) exposing each treated biosensor surface to ~~each~~ a mAb;

(d) determining a binding profile for ~~each~~ the mAb of step (c); ~~and~~

(e) repeating steps (c) and (d) for each tested mAb, and

(ef) classifying the mAbs into functional groups based on the binding profiles, wherein mAbs that exhibit similar binding profiles to ~~each~~ the same treated sensor surfaces are classified into the same functional group.

Claim 26. (previously presented) The method of claim 25, wherein the proteolytic enzymes are one for more of trypsin, endoproteinase Glu-C, endoproteinase Asp-N, chymotrypsin, endoproteinase Lys-C, and endoproteinase Arg-C, and the chemical agents are one or more of Tris (2-carboxyethyl) phosphine hydrochloride (TCEP•HCl), N-ethyl-N'-(dimethylaminopropyl) carbodiimide (EDC), iodoacetamide, hydrazine, p-hydroxyphenylglyoxal (HPG), hydrogen peroxide, N-bromosuccinimide, N-acetylimidazole, tetranitromethane, arsanilic acid, dansyl chloride, glutaraldehyde, ninhydrin, and diethylpyrocarbonate (DEPC).

Claim 27. (previously presented) The method of claim 25, wherein the at least two biosensor surfaces are four to nine surfaces.

Claim 28. (currently amended) A method of classifying ~~sibling~~ monoclonal antibodies (mAbs) that are raised against a single antigen into functional groups, comprising:

(a) immobilizing the antigen onto two to nine biosensor surfaces;

(b) treating each biosensor surface with a different modifying agent, wherein the agent is selected from the group consisting of proteolytic enzymes and chemical agents;

(c) exposing each treated biosensor surface to each mAb;

(d) determining a binding profile for ~~each~~ the mAb of step (c); ~~and~~

(e) repeating steps (c) and (d) for each tested mAb, and

(ef) classifying the mAbs into functional groups based on the binding profiles, wherein mAbs that exhibit similar binding profiles to ~~each~~ the same treated sensor surfaces are classified into the same functional group.

Claim 29. (currently amended) The method of claim 28, wherein the proteolytic enzymes are one ~~for~~ or more of trypsin, endoproteinase Glu-C, endoproteinase Asp-N, chymotrypsin, endoproteinase Lys-C, and endoproteinase Arg-C, and the chemical agents are one or more of Tris (2-carboxyethyl) phosphine hydrochloride (TCEP•HCl), N-ethyl-N'-(dimethylaminopropyl) carbodiimide (EDC), iodoacetamide, hydrazine, p-hydroxyphenylglyoxal (HPG), hydrogen peroxide, N-bromosuccinimide, N-acetylimidazole, tetranitromethane, arsanilic acid, dansyl chloride, glutaraldehyde, ninhydrin, and diethylpyrocarbonate (DEPC).

Claim 30. (currently amended) A method of classifying a set of monoclonal antibody (mAb)-producing hybridoma clones specific ~~to~~ for a single antigen into functional groups, comprising:

(a) immobilizing the antigen onto at least two biosensor surfaces;

(b) treating each biosensor surface with a different agent, wherein each agent is capable of modifying a surface of the immobilized antigen;

(c) exposing each treated biosensor surface to supernatant from a mAb-containing clone culture;

(d) determining a binding profile for ~~each~~ the mAb-containing clone culture of step (c); ~~and~~

(e) repeating steps (c) and (d) for each tested mAb, and

(ef) classifying the mAb-containing clone cultures into functional groups based on the binding profiles, wherein mAb-containing hybridoma clones that exhibit similar binding profiles to ~~each~~ the same treated sensor surfaces are classified into the same functional group.

Claim 31. (previously presented) The method of claim 30, wherein the agent is an enzyme.

Claim 32. (previously presented) The method of claim 31, wherein the enzyme is a proteolytic enzyme selected from the group consisting of trypsin, endoproteinase Glu-C, endoproteinase Asp-N, chymotrypsin, endoproteinase Lys-C, and endoproteinase Arg-C.

Claim 33. (previously presented) The method of claim 30, wherein the agent is a chemical agent selected from the group consisting of Tris (2-carboxyethyl) phosphine hydrochloride (TCEP•HCl), N-ethyl-N'-(dimethylaminopropyl) carbodiimide (EDC), iodoacetamide, hydrazine, p-hydroxyphenylglyoxal (HPG), hydrogen peroxide, N-bromosuccinimide, N-acetylimidazole, tetranitromethane, arsanilic acid, dansyl chloride, glutaraldehyde, ninhydrin, and diethylpyrocarbonate (DEPC).

Claim 34. (canceled)

Claim 35. (canceled).

Claim 36. (previously presented) The method of claim 30, wherein the at least two biosensor surfaces are four to nine surfaces.